

Annual Report 2021-22

Departmental Activities:

1. Organized a series of talks to celebrate “Fungal Awareness Week” from 27th September to 2nd October, 2021 in collaboration with Department of Botany.

Swami Shradhanand College
University of Delhi

Celebrates

WORLD FUNGUS DAY-2021
2nd October 2021

Fungal Awareness Week
27th September- 2nd October, 2021
Jointly Organized By
Department of Botany
& Department of Microbiology, SSNC

Patron: Prof. Parveen Garg (Principal)

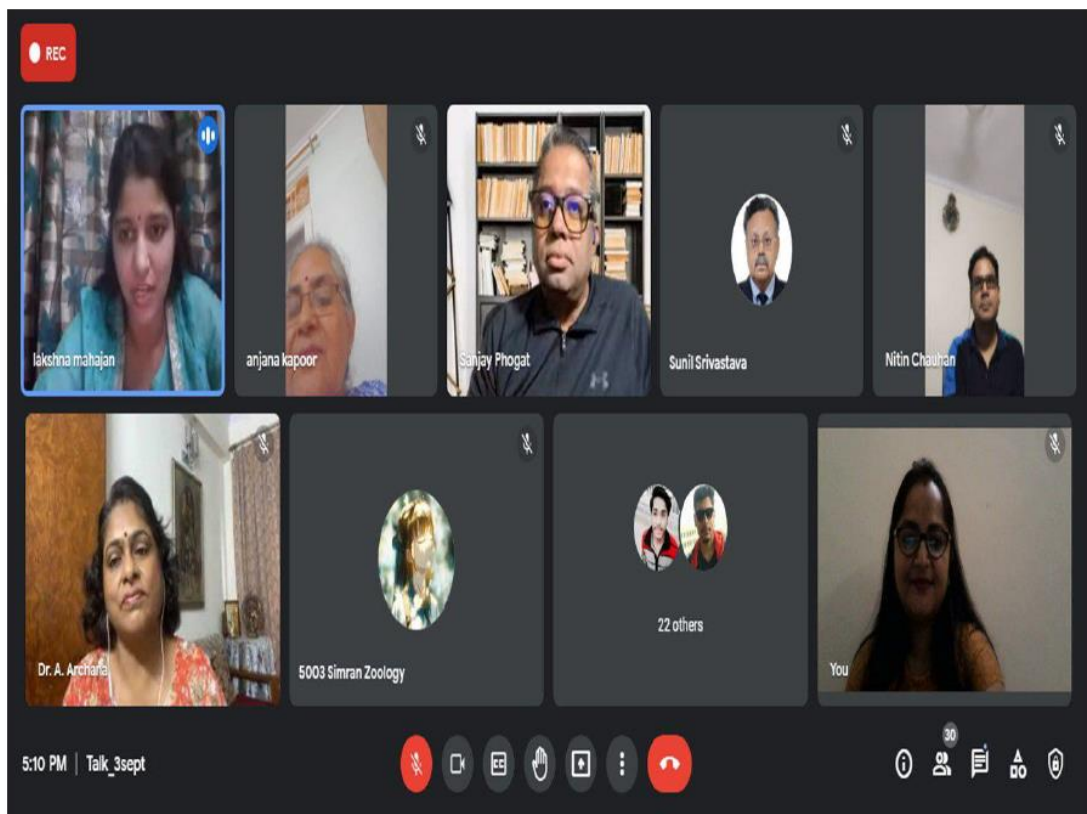
Conveners: Prof. Geeta Saxena,
Dr. Bhupender Giri, Dr. A. Archana

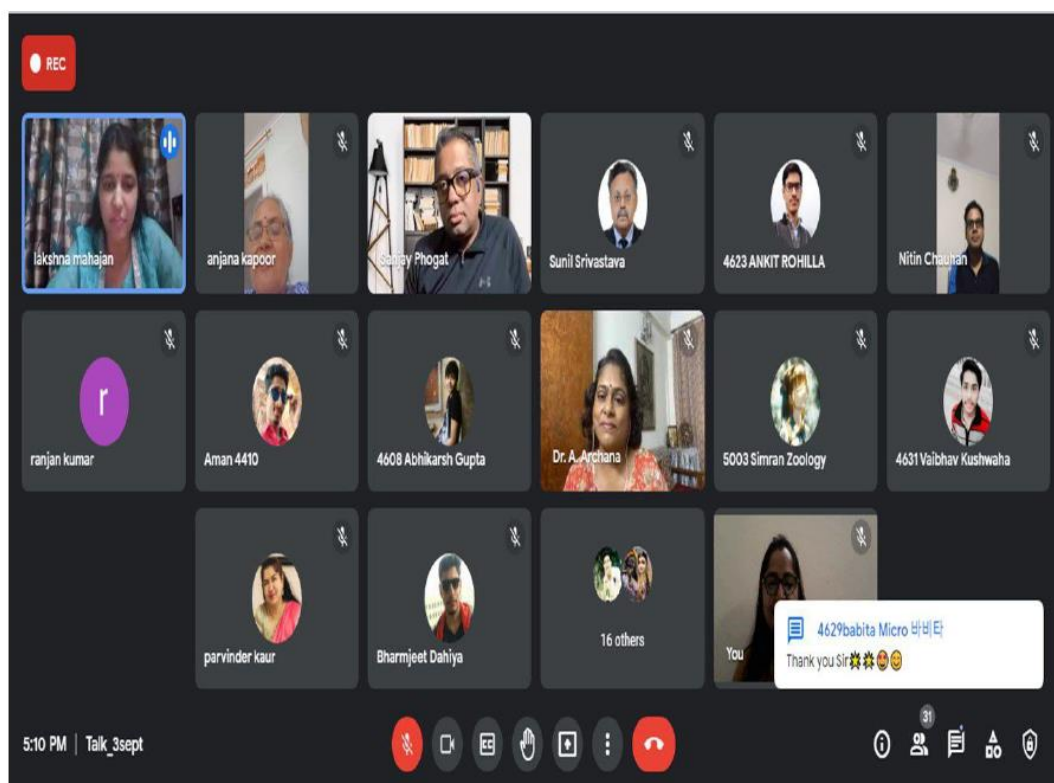
Technical Support:
Dr. Nitin Chauhan

2. A webinar on Career counselling on "Journey from B.Sc. Microbiology to Industry" on 3rd September 2021.

The **Department of Microbiology** has organized a webinar on “**Journey from B.Sc. microbiology to industry-how core foundation plays a role**” by **Dr. Sanjay Phogat**, Vice President R&D, Head Discovery Performance Unit GSK, Siena, Italy on 3rd September, 2021, 3:30 p.m. on Google Meet.

Dr. Sanjay is an infectious diseases expert with over twenty years of experience and a strong understanding of vaccine research and development. Has a proven track record of discovering and creating as well as improving existing systems, effectively leading cross-functional teams, and delivering results. Sanjay’s unique experience covers a broad range of organizations varying from academia, government, not-for-profit and pharma. His ability to guide, mentor and lead is unparalleled and he is well regarded by his peers and executive team for his leadership abilities and his passion for delivering results.







Swami Shradhdhanand College (University of Delhi)

Department of Microbiology

Invites you to join a webinar on

JOURNEY FROM B.SC. MICROBIOLOGY TO INDUSTRY- HOW CORE FOUNDATION PLAYS A ROLE

On

3rd September, 2021, 3:30 p.m. on Google Meet link

By



Dr. Sanjay Phogat

Vice President R&D, Head Discovery Performance Unit
GSK, Siena, Italy



Prof. Parveen Garg
Patron & Principal

Dr. Anjana Kapoor
Convenor

Dr. Sweta Yadav
Coordinator

Ms. Akanksha Gupta
Coordinator

3. Webinar on “Advancements in the Development of Second-Generation Biofuels” by Dr. Syed Shams Yazdani, Group Leader, Microbial Engineering, ICgeb, Delhi on 11th October 2021.

First Generation Biofuels are not Sustainable

Category	1st generation	2nd generation	3rd generation
Bioethanol	edible biomass starch and sugars	non-edible biomass cellulose, hemicellulose, lignin and pectin	algal biomass carbohydrates
Biodiesel	vegetable oil	oil from Jatropha	algal lipids
	Conventional biofuels	Advanced biofuels	

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4. In addition, the faculty member Dr. A. Archana as convenor and Dr. Sweta Yadav as coordinator organized “SOOKSHMA Alumni Career Counselling Webinar Series 2020-2021” in collaboration with Microbiology Society of India on the following topics:

Faculty Achievement Report

Dr. Sunil Kumar Srivastava

Chapters in Edited Book:

- “Advances in Nanotechnologies for Wastewater Treatment: Strategies and Emerging Opportunities” (Ch-6) in: DWTRP: Removal of Emerging Contaminants from Wastewater through Bio-nanotechnology. 2021. Eds. Shah, P. M, Susana RodriguezCouto, Jayanta Kumar Biswas. Elsevier, pp.123-138, (ISBN: 9780323855839).
- “Mycorrhiza- a Versatile Biocontrol Fungus” (Ch) in: Biocontrol Agents in Agriculture. 2021. Eds Singh, S.P, S. N. Singh, R. N. Gupta, and H.C. Lal. Parmar Publication, (ISBN: 978-81-952546-7-5).
- “Biofuels from Algae” in Bio-clean Energy Technologies. 2022. Ed. Pandit S et al. Springer Nature, (ISBN: 9789811680939).
- “Cancer Biomarkers in the Era of Systems Biology” in Systems Biomedicine Approach in Cancer Research. 2022. Ed. Singh S. Springer Nature, (ISBN: 9789811919527).

Research Articles:

- “Genome-Wide Expression Profiling of Small RNAs in Indian Strain of *Hizoctoniasolani* AG1-1A Reveals Differential Regulation of miRNAs during Pathogenesis and Crosstalk of Gene Regulation” in Journal of Fungi, 2021. MDPI, 7,7: 561, (ISSN: 2309-608X, Scopus Indexed, IF-5.8).
- “*Beauveria Bassiana* Assisted Remediation of Chromium and Indanthane Blue” in Journal of Environmental Chemical Engineering. 2021. Vol. 9, Issue 4, p.105552, (ISSN: 2213-3437, Scopus Indexed, IF-5.8).
- “Silver Nanoparticles for Enhanced Dye Degradation” in Current Research in Green and Sustainable Chemistry (Elsevier). 2021. Vol. 4, Issue 100132, (ISSN: 2666-0865, Scopus Index).
- “Synthesis of Silver Nano-Particles using Egg White: Dye Degradation and Antimicrobial Potential” in Biointerface Research in Applied Chemistry. 2021. Vol. 12. Issue 2, pp.2361-2372, (ISSN: 2069-5837, Scopus Index).
- “Antimicrobial and Dye Degradation Application of Fungi assisted Silver Nanoparticles and Utilization of Fungal Retentate Biomass for Dye Removal” in Water Environment Research (Wiley).2021. Vol. 93 Issue 11, pp.2727-2739, (ISSN:1554-7531, Scopus Indexed, IF-1.85).

- “Phylogenetic and Antimicrobial Drug Resistance analysis of *Vibrio cholerae* O1 isolates from Ghana” in *Microbial Genomics*. 2021. UK: Microbiology Society. Vol. 7, Issue 10. (ISSN: 2057-5858, Scopus Indexed, IF-5.5).
- “Microbiome Profiling of Enterotoxigenic *Escherichia Coli* (ETEC) Carriers Highlights Signature Difference between Symptomatic and Asymptomatic Individuals” in *mBio*. 2022. American Society for Microbiology. Vol. 13, Issue 3 /4, (ISSN: 2150-7511, Scopus Indexed, IF-7.9).
- “Vitamin C and its therapeutic potential against COVID-19” *Clinical Nutrition*. European Society for Clinical Nutrition and Metabolism. Vol. 49, Issue 2, (ISSN: 2405-4577, Scopus Indexed, IF-7.3).

Paper Presented:

- “Use of RNA Technologies and CRISPR-Cas Gene Editing for Virus Resistant Plants to meet Sustainable Goals” in 7th International Conference on Phytopathology in Achieving UN Sustainable Development Goals organised by ICAR-IARI, New Delhi, 2020.
- “Utilisation of Viruses Maintained in Plants for Vaccination, Cancer and Immunotherapy” presented in an International Conference on Evolution of Viruses and Viral Diseases organised by Department of Biotechnology (GOI) and the Indian Virological Society, held at INSA, 2020

Dr. Archana Ayyagari

Chapter in Edited Book:

1. “Glycome in Metastasis: Glycan Remodeling and Tumor Progression” in *The Glycome*. 2021. Eds. Malik A, Tanveer A. Dar. Apple Academic Press. pp. 127-156, (ISBN: 9781003145394).
2. “Repurposing Potential of Diminazene Aceturate as an Inhibitor of the *E. coli* DNA Gyrase B” in *Journal of Biomedical Research and Environmental Sciences*. 2020. Vol.1, Issue 6. pp. 263-270.
3. “In Silico Screening of Approved Drugs to Describe Novel *E. coli* DNA GyraseA Antagonists” in *Journal of Biomedical Research and Environmental Sciences*. 2020. Vol.6, Issue 10, pp. 233-240.

Paper Presented:

1. “Moving towards Environmentally Sustainable Food Sector through mitigation of food losses and wastage” at 7th International E-Conference on Challenges and

Opportunities in Medical, Environmental and Biotechnological Research
GenoPro2020 organised by Invertis University Bareilly, U.P from 10th -11th
December, 2020 (1st Prize in oral presentation).

2. “Bioremediation Approach for Management of Heavy Metals” at an International Conference on Contributions of Biological Sciences for Sustainable Environment organised by the Wilson College, Mumbai from 25th – 26th February, 2022.

Dr. Parvinder Kaur

Chapter/s in Edited Book:

1. “Multifarious Applications of Fungal Phytases” in Encyclopaedia of Mycology. 2021. Eds. Zaragoza O and A. Casadevall. Elsevier Inc. Volume 2, pp. 358-369.
2. Developments in Fungal Phytase Research: Characteristics and Multifarious Applications” in Progress in Mycology: Biology and Potential Biotechnologies. 2021. Eds. Satyanarayana T, S.K. Deshmukh and M.V. Deshpande. Springer-Nature Singapore Pvt. Ltd. pp. 73-109.

Dr. Lakshna Mahajan

Chapter/s in Edited Book:

Mahajan L., Puri N.K., and Kumar M. (2022). Chapter “Lung CT scans for the management of COVID-19 pneumonitis and the diagnosis of COVID-19”, **IOP Publishing Ltd 2022**, Chapter 10 (ISBN: 978-0-7503-3795-3) Volume:1. <https://iopscience.iop.org/book/edit/978-0-7503-3795-3/chapter/bk978-0-7503-3795-3ch10.pdf><https://iopscience.iop.org/book/edit/978-0-7503-3795-3>

Dr. Nitin Chauhan

Chapter/s in Edited Book:

1. “Role of Fungal and Plant Systems in Wastewater Treatment: Mechanisms and Applications” in An Innovative Approach of Advanced Oxidation Process in Wastewater Treatment. 2021. Ed. Shah P. Maulin Nova. USA: Science Publishers: (ISBN: 978-1- 68507-235-3).
2. “Advances in Nanotechnologies for wastewater Treatment: Strategies and Emerging Opportunities” in DWTRP: Removal of Emerging Contaminants from Waste water through

Bio-nanotechnology. 2021. Eds. Shah P. Maulin, Susana Rodriguez-Couto, Jayanta Kumar Biswas. Elsevier, (ISBN: 978-0-32-385583-9).

3. "Biofiltration Techniques in the Remediation of Hazardous Inorganic and Organic Contaminants" in An Innovative Role of Biofiltration in Wastewater Treatment Plants (WWTPs). 2022. Eds. Shah P. Maulin, Susana Rodriguez-Couto, Jayanta Kumar Biswas. Elsevier, (ISBN: 978-0-12-823946-9)
4. Biofuels from Algae in Bio-clean Energy Technologies. 2022. Eds. Pandit S et al. Springer Nature, (ISBN: 9789811680939).

Research Articles:

1. "Beauveria Bassiana Assisted Remediation of Chromium and Indanthane Blue" in Journal of Environmental Chemical Engineering.2021. Vol. 9, Issue 4, p.105552.
2. "DNA Barcoding for Identification and Detection of Species" in Letters in Applied Nanobioscience. 2021. Vol. 11, Issue 2, pp. 3542-3548.
3. "Silver Nanoparticles for Enhanced Dye Degradation" in Current Research in Green and Sustainable Chemistry. 2021. Vol. 4, p. 100132.
4. "Synthesis of Silver Nanoparticles Using Egg White: Dye Degradation and Antimicrobial Potential" in Biointerface Research in Applied Chemistry. 2021. Vol. 12, Issue 2, pp. 2361-2372.
5. "Antimicrobial and Dye Degradation Application of Fungi-Assisted Silver Nanoparticles and Utilization of Fungal Retentate Biomass for Dye Removal". 2021. Water Environment Research, Vol. 93, Issue 11, pp.2727-2739.

Paper Presentation:

1. "Bioremediation Approach for Management of Heavy Metals" at an International Conference on Contributions of Biological Sciences for Sustainable Environment organised by the Wilson College, Mumbai from 25th- 26th February, 2022.
2. "Nanomedicine for Cancer Treatment: Current Status and Future Prospects" in 41st International Annual Conference of the Indian Association for Cancer Research (IACR-2022 on Combating Cancer: Biology to Therapy to Drug Resistance along with an International Symposium on "Stem Cell and Cancer held at Amity Institute of Molecular Medicine & Stem Cell Research (AIMMSCR)", Amity University, Uttar Pradesh, Noida from 2nd- 5th March, 2022.